

1490

THE NEGLECTED
WEALTH OF IRELAND
EXPLORED.

OR,
A PLAIN VIEW OF THE GREAT NATIONAL AD-
VANTAGES WHICH MAY BE OBTAINED BY
COMPLEATING THE NAVIGATION OF
THE RIVER SHANNON,
THE UNITING OF OTHER RIVERS TO IT,
THE WORKING OF MINES,
AND,
THE ESTABLISHMENT OF VARIOUS MANUFAC-
TURES IN THE
KINGDOM OF IRELAND.

With some observations on the means of carrying
these plans into execution, and of removing
every restriction on the trade and commerce of
the Irish: upon principles of national equity to
Great Britain and her sister country.

*Are you not one? are you not join'd by Heaven?
Each interwoven with the other's fate?
Are you not mix'd like streams of meeting rivers,
Whose blended waters are no more distinguish'd,
But roll into the sea, one common flood.*

R o w e.

By J. C.

K. C. J.

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THE
HIDDEN WEALTH OF IRELAND
EXPLORED.

AS a scale seems now raised for weighing the mutual interests of Great Britain and Ireland, it is the duty of every individual to contribute his little stock of knowledge and experience to make the balance even. How far Ireland is able to contribute to the reciprocal benefit of the two nations, has hitherto been so little considered, that the efforts of every man who is acquainted with the country and it's productions, will, doubtless, be well received by those who wish to promote the general good.

MINISTERS of state, however wise and well-intentioned, sometimes fail of extending

tending that happiness they desire to communicate, for want of being sufficiently acquainted with the means, in detail. Their Eye, accustomed to view objects in a general light, wants the needful help of distinct glasses, to enable it to discern the several separate rays that form one grand aggregate. To aid, in part, this unavoidable defect, I have thrown together some observations which may not be unacceptable, as they may serve to shew the importance of this kingdom to the British empire; the trade that may be established here; the advantages which Britain may derive from a permanent encouragement of that trade, and their lending a sisterly hand to raise it from that declining state in which it is now sunk. Happy if my feeble aid, and the communication of any lights I may have acquired, from observation and experience, may in the least contribute to the good of my country.

IN the following sheets, I shall, *first*, enumerate the many articles of commerce and manufacture that Ireland plentifully produces.

Secondly,

Secondly, point out the places where they are produced, and the methods by which they may be made valuable.

Thirdly, shew the advantages that will certainly accrue to the industry, population, and commerce of this kingdom from a due employment of those gifts of nature.

Fourthly, demonstrate how far it will be the interest of Great Britain to encourage such employment.

Fifthly, point out the proper plan of carrying these useful designs into execution. and,

Lastly, draw some particular inferences from the whole.

FIRST, the articles that are produced in Ireland, and may be made the means of establishing such manufactures as will give bread to thousands, and create new branches of internal and external trade, are these,

Iron, that may be worked into not only every species of the various utensils

of agriculture, but into new kinds of manufactures.

Coals, not only for fuel, but may be easily converted into coak, for the different uses for which that necessary is required.

Clays, for the purpose of pottery, and artificial porcelain.

Slates for roofing houses.

Copper.

Verdigrease.

Roman Vitriol.

Sulphur.

Lead.

Silver.

Allum.

THESE are the spontaneous products of a country abounding in mines and minerals; and by the effects of agriculture some new branches of trade may be attained: such as,

Ropes.

Ropes, sails, and all manner of cordage, from hemp, raised here.

Oil, for lamps, and the woollen manufacture, from rape, raised here.

Baskets, and other wicker-utensils, from Osiers and willows, raised here.

Matts, and packing-flags, from the reeds, and bull-rushes, which may be raised in great abundance. and,

Bark for tanners.

ADD to this, the extension of our *fisb-eries*, and our *woollen* manufacture, and it will appear, that in this kingdom, numberless sources of wealth, and it's concomitants may be found.

SECONDLY, most, if not all, of the above recited articles may be had from the great lake whence the Shannon issues, all along that river, down to where it empties itself into the sea.

THAT district affords an inexhaustible source of wealth, especially from the lake to Drumsna. It abounds with mines and minerals of the richest nature. Iron, sufficient

sufficient for the most extensive works, limestone, and every thing that is necessary for establishing manufactures, larger than any of the kind in his Majesty's dominions; with this additional advantage, that coal-pits are not farther distant than a little mile from the great lake; and a declivity, convenient for the carriage of both coals and iron, leads down to the edge of the lake, which is navigable for boats of great burthen.

THIS lake is situated from North-West, to South-East, beautifully bounded on the North by a prodigious mountain, whose cloud-cap'd summit is seen, in a clear day, from a distance of fifty miles. It runs, due North, into the County of Cavan, gradually declining to a plain to the Westward; from whence arise a variety of Sugar-loaf hills, forming a pleasing amphitheatre, whose sides from the water's edge to the tops, are clad in a verdant grassy mantle; which, contrasted with the brown, heathy summit of the mountain, and the white foam of the water, dashed against it's base, and returning to their oozy bed form a delightful landscape.

THE

THE scene from Ballintra is not only beautifully picturesque, but the hills which surround the lake, rising above each other, with sudden breaks, seem to inform the beholder, that they are rich in mines. Each view exhibits fresh marks of fertility; and a closer inspection gives assurance, that copper, silver, lead, iron, and other valuable metals abound there. Thither then let the eye of the public be immediately turned, and there would the nation find an inexhaustible fund of wealth and the means of industry.

BUT Metals are not the only riches of this part of the country, and the fertile banks of the whole course of the Shannon. *Clays* of various kinds, for potters' use, are in great abundance: from one species of which I made a ware, which equalled that we have from England in dishes and plates, and sustained much better all the changes of heat and cold, suddenly applied, than any of the English manufacture that I ever saw. This superiority seems to me to arise from the refractory earth, and vitrifiable substance, (called by the Chinese, *Kaolin* and *Petunse*) being better than the soap-rock of the county

county of Cornwall, which is used in England; and perhaps to a larger proportion of the glazing substance. The clay with which I made the experiment did not yield so much to the fluxing quality of the glazing, as the English did, and might be, therefore, better able to bear those respective changes. From this it may be concluded, that in this branch we might in a little time equal the English, and perhaps, at length, equal the Dresden.

IN many places round the head of the Shannon is found a slaty substance, which would afford vitriol (or copperas) in great abundance; and also, I am confident, from some samples I have seen, that plenty of sulphur may be procured: and in many parts round these mountains fire clay, and clay for black pots, that would suffice for the consumption of the whole kingdom.

THE copper that is found here and in the mines of Cronebawn is proved, by assay to be more valuable than what is produced in any part of England, and that copper which the water affords is more ductile

ductile than that which is smelted from the ore raised in Cornwall. And, besides the advantage of the copper being of a superior quality, there is an ore raised at the mine that would produce verdigrease, and Roman vitriol, which it would be for the advantage of England to take from us, as they are chiefly indebted to Germany and France for the greatest part of what they consume in their different manufactures.

To return to a few considerations on what may be expected from working our own *iron*.

THE quantity of *cast iron* imported here, at the common rate of £8. per ton, is almost incredible. Now if we state the produce of our own iron ore, and the expence of smelting, it will be evident that that metal could be brought from founderies erected at the head of the Shannon, to Dublin, even on cars, at a much less expence than what we pay for that which we import.

One hundred weight of iron mine	- -	£. 0 0 6
Two hundred weight of coaked coal (for working)	- - - - -	} 0 2 0
Labour and Carriage.	- - - - -	
		0 0 6

£. 0 3 0

This

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This would produce fifty pounds weight of metal, which would make the value be 6l. per ton ; two pounds cheaper than the common importation price. But as the experiment was made on only one hundred weight of ore, and at twenty miles distance from *Lough-Allen*, it follows, that if it had been made on the spot, and with the quantity of a ton, the expence would have been much less. It would have been only this :

One ton of ore	-	-	-	0	2	6
Two tons of Coak, at 10s.	-	-	-	1	0	0
Labour	-	-	-	0	10	0
						£. 1 12 6

This would produce one thousand weight of metal, at 6l. per ton.

THE force of these conclusions will appear stronger, from comparing these estimates with Governor Pownall's account of the iron mines at Ancram in America ; one bed at Tachonic mountains, and another at Salisbury Falls, in Connecticut, about twelve miles from Salisbury. The mine costs

One ton of ore	-	-	-	0	2	6
Carriage	-	-	-	0	8	0
Coals, two ton, with cartage	-	-	-	1	11	0
Labour	-	-	-	0	10	0

£. 2 11 6
According

According to the governor's account, this quantity of ore would produce but *nine hundred* weight of metal; therefore, in the article of original expence, the mines at the Shannon head could be wrought cheaper by 19 s. per ton, and yet produce one hundred weight more of metal.

As the iron works at Gloucester, on the river Severn, and those of the Carron company in Scotland, are all worked by coaked coal, nothing hinders us from having the same necessary for working our iron. Within a few perches of the iron mines are coal pits, and both are on a large navigable river, within half a mile of the great lake whence the Shannon issues. There have been lately discovered on Mr *Tenison's* estate, coal mines as rich as any in England; equal in quality, if not superior to any imported from Whitehaven. These coals may be coaked not only for working the Iron, but for the purpose of drying malt, (whence a better malt liquor might be produced than from turf-dried malt.) The method of coaking is extremely simple, depending only on the degree of fire necessary for

the particular kind of coal to be coaked ; which if it is soft and mellow, requires a greater ; and if harsh and earthy, a lesser degree of heat. But that this may be better understood, I shall add to these observations, a method of coaking coal, by which the women and children of the country may be compleat in the process.

HENCE we may conclude that iron may be produced here equal to any imported from Sweden, or Russia ; for pig iron might be carried to the parts of Ireland contiguous to woods, and there made into iron, steel, &c. And surely we have a sister's claim on Britain for the sale of every article of this kind.

Athlone seems to be extremely well situated for a coal yard, and foundery ; casting iron into various utensils, such as pans, mill-work, pots, gridles, plough-shares, spades, shovels, &c. and by taking the boys from the respective charter schools, and teaching them to make nails, and many other little iron articles, we might save considerable sums sent annually out of this kingdom for such manufactures.

WITHIN

WITHIN a few months a very fine *Slate* quarry has been found on the above mentioned Mr. *Tenison's* estate, equal in all respects to the best that has been imported. This article alone, properly managed, would create a considerable trade down from the lake to Carrick, and all along to Athlone and Killaloe, which could not fail of being of the highest advantage to those parts.

THERE are few great estates in this kingdom, on which there are not considerable tracts of mountains, bog, or waste uncultivated lands. The improvement of these would prove of lasting advantage to the posterity of the owners. This land may be made to produce *bemp*, *rape*, and *barley*; thereby bringing into tillage what now lies barren and useless. To effect this, nature has provided a proper manure on the surface of every part. This is the black-moor, which being mixed with sandy marle, or lime-stone gravel, and exposed in ridges, for one winter, to a north-east aspect, would attract the nitre of the air, and render it an excellent manure; for by this method the oily matter of the composition

is

is converted into an additional quantity of nitrous particles, which is well known to be the most lasting kind of manure, as it always produces a substance of its own nature.

HEMP is an article of considerable utility, and great consumption to a maritime state. The lands above-mentioned would produce such quantities, that England, who does not raise half enough for her own consumption, but relies on other nations for the principal part of what she uses in her navy, might be supplied, shortly, from Ireland, better than from Russia or America; whilst that branch of trade would employ a number of poor, who are now in a wretched condition, and often forced to seek for work in other countries, to pay the poor pittance of rent, too often squeezed from the tears of distress.

GREAT savings might be made, by our raising *rape*, to furnish us with oil for sundry uses; and, by growing *barley* on those waste grounds, the value of the lands would be raised from almost nothing, to something considerable; and
malt

malt, by becoming cheaper, would enrich our beer and ale with a larger portion of its salutary essence.

ANOTHER species of trade might be adopted, with considerable advantage, which is the propagating of *osiers* and *willows* along the marshy banks of the Shannon. The quantity of these consumed in basket-work, cages, &c. is an object of great consequence; especially, as we are likely to encrease in our exports, this article will be highly necessary, if we may judge from what the English derive from the cultivation of them on the banks of the Avon, the Thames, and the Isis.

NOR would even the numerous *reeds* and *bull-rushes* which fringe the shores of this great river, be without their use. They might be easily made articles of profit. The *bull-rushes* might be useful in package of other commodities; and the *reeds*, if properly managed, would afford employment to many, both young and old, as they could be made into a very serviceable kind of matts, a desirable covering for the floors of decent houses, and the walls of inferior dwellings.

NOTHING

NOTHING can tend more to the enriching of a nation, than to turn every production of Nature to a subject for the employment of the poor. And it is a most desirable circumstance to make every spot, however rocky or marshy, produce something to afford that opportunity. Such a procedure, universally adopted would settle the minds of the people into a thorough conviction, that their own country can yield them all that happiness which man always sighs for, when surrounded with poverty, and benumbed with idleness.

THERE is scarce any thing more wanting to our manufactures than *bark*, yet we pay no attention to the propagating a sufficiency for own consumption; for, though we are possessed of every requisite to effect it, we are mere dependants on other countries for this important article. Short-sighted men! It is evident that acorns, thrust even in the crevices of lime-stone rocks, and covered with a single sod of earth, will produce large trees, and spread their roots so as to flourish in great perfection. By these means, in sundry parts of Lancashire, they are enabled

abled to cut the copse, and send us such *bark* as our kind fellow subjects disdain to use themselves; whilst the wood, after stripping, is converted to charcoal. Why do we not look in time to ourselves? — Why do we thus lose sight of our own interest, and pour our little wealth, with an unthinking prodigal's hand, into the lap of those very men, who could calmly look on our distresses, without a generous feeling for them? For, though the people of that shire, and its neighbourhood receive, yearly, near 300,000*l.* from us, for coals, bark, and other articles, yet when we sued for indulgence, and craved for bread, they, in their charity, would have given us a stone. Should not the conduct of those people make us strive to be independent of them. The beef and other articles which their coal ships take from us, bear no proportion to the enormous sum of near two hundred thousand pounds they receive annually of us, for coals only; therefore we should strain every nerve to keep the greatest part of that money circulating amongst ourselves.

The *fishery* of the Shannon might be extended so as to produce prodigious advantages. The salmon, eels, pike, perch, and many other fish, might afford many opportunities of traffic, and enable the inhabitants to pursue that species of internal barter which never fails to enrich a country. They might exchange coals for fish; fish for flour; and sell pig-iron to buy woollen cloth. Nor is this idea merely speculative: I saw it realized; for whilst I was at Drumsna, a large boat came there, laden with flour from Mr. O'Brien's mills in the county of Tipperary; and the owner of the cargo would have gladly taken the value of the cargo, (near 100 l.) in iron, coal, or the articles I have mentioned.

IN the last place I shall consider our *woollen* manufacture, and how it may be brought to perfection and extended.

WOOLLEN manufactures might be carried on, in and about Athlone, with superior advantage, if a proper encouragement was given to manufacturers to settle there. It is situated in the midst of
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those countries where the wool is produced in the greatest plenty; it is well supplied with a plentiful market, and the necessaries of life are cheap.

BUT there is one consideration which points out the banks of the Shannon, as preferable for carrying on the woollen manufacture. Its waters are peculiarly adapted for every part of that business, as their great softness enables them to scour the yelk from the wool, and to aid every effort of the ingenious dyer, whilst the waters of the Liffey or the bason are highly unfuitable to either of those operations, being charged with mineral particles and fouled with mud. This assertion is proved from, not only the theory and experiments of Maquer and Hellot, but from my own observations, which confirm it as a maxim, that neither clearing the wool, nor the different processes of dying can be effectually performed with any water impregnated with any mineral.

THIS consideration leads me to one digressive observation. That it were to be wished those gentlemen who give lec-

tures in chemistry would lay aside the trammels of the uninteresting jargon with which that noble science is so much fettered. That they would consider, the arts and manufactures of their country are as fit subjects of their enquiries as medicine. Then perfection would go hand in hand with the rapid progress that would attend the detail and inspection of every process; and thus chemistry would be a school for the artist and the manufacturer.

THE woollen manufactures of this kingdom, and the artists employed thereon, are, by a false and mistaken jealousy now almost entirely consigned to France and America, which seems to threaten the lopping off of every branch of that trade which Britain enjoys, to Turkey, Africa, or the West Indies. For already the French undersell them in all those markets; and suit their cloth with more judgment to the climate and genius of those people.

It was the false policy of England, with respect to this country, in the restricting our woollen trade, that instructed

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that able statesman, M. de Colbert to raise the poor state of that trade in France. He was sensible that the French wool would not answer the purpose alone, and therefore offered premiums on the importation of Irish wool, which amounted to near one half of it's value. Hence the woollen trade began to flourish in France, by means of our wool, which Britain forbid us to work up for exportation. If returning wisdom shall whisper to her, that from this source alone, the French rival her in the Turkey trade; she will deprive France of that source, and render it impossible for that nation to pursue a trade which in a very few years will revert to Great Britain. The only means requisite to accomplish this desirable end, are to permit us to export mixed stuff of silk and wool, and midling priced Cloths, and not a single pound of wool will find it's way in a clandestine manner from this country to France, the enemy and rival of British commerce.

BUT Britain works a sister's woe,
She slaves a friend, and gluts a foe,

I now proceed to the *third* and *fourth* points, "To shew the advantages that will

“ will certainly accrue to the industry,
 “ population and commerce of this king-
 “ dom, from a due encouragement of the
 “ gifts of nature she possesses;” and, “ To
 “ demonstrate how far it will be the In-
 “ terest of Great Britain to encourage
 “ such employment.”

AN encrease of people will never add to the advantage of a nation, but in proportion as they are employed; for if no scheme of employing the increasing inhabitants is established, they become a burthen to the community, and imbibe every vice that can poison the mind, with an abhorrence of industry. Therefore, the continuing to pin us up within the fold of restrictive acts is manifestly false policy in Great Britain. She can expect but poor returns from poverty and enforced indolence. But were employment properly encouraged, what might she not hope from a nation capable of entertaining twelve millions of inhabitants in industry? What great acquisitions of wealth, power and industry may she not draw from this country.

WERE

WERE the number which have emigrated from Ireland since the passing the navigation act, and the penal laws, properly calculated, it would appear amazingly incredible. If the arguments of Sir William Petty, Sir Matthew Decker, Lord Moleſworth, and Sir Thomas Molyneaux had had their proper weight, the gates of our commerce would have been ſet wide, and thereby the ſpirit of emigration had been checked on its firſt appearance. Every inhabitant had been inſpired with a love for his native ſpot; and arts and ſciences would have enlightened their minds, and enlarged every principle in a benevolently reciprocal dependance on each other: No diſtinction between Engliſhmen and Iriſhmen had been made; we had been blended into one common people, by a kind of political marriage. Our friends and our foes had been the ſame; ſtrike one, and you irritate the other; though the honour of Britain were ſeated in the miſt of danger, thither ſhould we have run to defend it. Bound to her by the ſtrongest ties of gratitude, we ſhould arm ourſelves with firmneſs and reſolution, and guard her ſplendour

splendour from being obscured by the proudest of her foes, or have nobly fallen in the attempt.

GREAT BRITAIN seems now to begin to see her error, nor can she, without the severest impeachment of her sense and policy continue on us those restrictions, which have tended only to distress her, and impoverish us. To persist now, would be only a wanton exercise of abused power. The wisest step she can now take is to prevent our people from emigrating, by giving all possible encouragement to their being employed fully at home. There is not one material this country can afford, which it is not her interest to have wrought in the most extensive manner; since that alone can prevent our people from enriching her natural enemies, with our stores of people, arts, and manufactures.

THE FIFTH part of the task I undertook, is "to point out the proper plan for carrying the above-mentioned useful designs into execution."

LET us for a moment suppose that my country-men have shaken off their languor

languor and become attentive to their own interests. The first thing that must strike them is, that nature has been bountiful, and if they are not wanting in their duty, they may render this country the most happy and flourishing of any on the face of the globe.

WATERED as we are by lakes and rivers, we can, with a little expence, form communications with every part of the country, send the produce of one country into another, and in a few years make a connecting chain of internal commerce throughout the whole island.

AN internal trade thus formed would keep up a perpetual circulation of commodities, that would equally benefit the man of landed property, the industrious husbandman, the artist, and the manufacturer. The land owner would no longer strive to bask in the sunshine of court favour, and debase himself by applying for employments under the crown, to ease his burthened fortune from a load of debt; he will rather turn his eyes to his own extensive domain and endeavour to promote industry round him. He will employ the poor in many
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branches of manufacture, the materials for which he may, probably, find on his own estate: which will then prove more advantage to him, than the best patent office the crown can bestow.

My grand position is, that a compleat *Inland Navigation* is the chief thing wanting to give life and spirit to this Kingdom.

THE Navigation from the great lake of Allen to Killaloe may be easily rendered compleat, by a small cut from the bridge at *Ballintra* to below *Battle Bridge*. If this were first finished, from the lake down, it would immediately open a course of trade along the whole of the river. Boats would be able to carry coals to Carrick, Jamestown, Drumsna, and many other little towns, whose dependence for fuel is very precarious; and a certainty of coals in cold and rainy seasons would be to them a seasonable relief. Besides, were this effected many persons would establish iron works, especially for casting many articles of husbandry, and supply the country round with them, which is much distressed for want of a regular

regular assortment of socks, coulters, and some necessary parts of mill-work.

I KNOW some gentlemen have objected, that if such a cut were finished at the head of the lake, so as to pass all intermediate obstructions, yet the boats proper for a small canal would not be able to encounter the lakes near Drumsna, Longford, Lanesborough and Athlone. But this objection arises from a mistaken opinion; for if the cut were but nine feet wide, (which is as large as that between Bristol and Gloucester) then a boat eight feet wide, and twenty feet long, well decked, would pass the cut; and by the help of a shoulder-of-mutton sail, hoisted to a mast in her waist, and raking to the stern, would be able to encounter any storm. Besides several little piers might be thrown out in different parts of those lakes, where boats might find a safe shelter.

WHAT I advance on this head is not mere speculation, but the effect of experience. I built a boat on the Shannon on which I have frequently sailed over the most dangerous parts of the lakes, and in very tempestuous weather, with the greatest safety, owing to the particular

construction of my sail, whereas had I followed the advice of the country people, I should have fallen a victim to ignorance, on Lough Boe Daragh, which is four miles broad and seven miles long. Their sails are square, and hoisted very high; this makes the boat top-heavy, and liable to be overfet by every sudden squall, whereas my sail having it's whole breadth below, and terminating in a cone at the mast-head, those dangerous gusts of wind had no effect on my boat, and I felt little more inconvenience than what arose from the surf, which in most places is gradual, a circumstance that greatly diminishes the danger. The little voyage I made from Drumsna to Rourke (the seat of Henry Nesbit, Esq;) which is twelve computed Irish miles, (or fifteen English) was performed in two hours, with only a pair of oars and the sail: the various windings of the hills filling the sail, by their eddies, facilitated the passage; and we returned along shore, rounding each prominence by which the waters glide.

IN several excursions that I made on the Shannon, the sight of so many harbours and towns, so well situated for trade

trade, made me lament the genius of commerce had not taken her abode in this valuable country. The prospect is strikingly beautiful. The verdant lawns contrasted with the rising hills. The vallies clad in all the gaiety of nature, and the brows of each little prominence chequered with various trees, whilst the air is filled with fragrance from the extensive meadows, that seem one continued waving sheet of rich embroidery of flowers. Each little eminence covered with a verdant mantle, and thickly bestrewed with flocks, herds, and roving coursers. hath it's circling vale bordered with woods, in which the stately oak, mingling it's branches with those of the lofty ash, affords shelter to multitudes of rooks, stares and cranes who, whether hopping from spray to spray, or winging the air, utter their rural clamour, whose harshness is at one time attempered by the echoing murmur of the chrystal floods, and at others blended with the bleating of the fleecy tribe, or the lowing of the horned cattle.

BUT why do I attempt description of what language is too poor to paint. I shall

shall only observe in general, that from the house of Mr. King, of Charlestown, to that of Mr. Nesbit of Aughamore, and from thence to Longford, Lanesborough, and Athlone, the prospect equals that of any part of Europe, in the variegated beauties of land and water.

It may be asked, how are we to profit of the rich products of nature, which are to be obtained so far from the capital, when no navigation is at present finished to any great river, nor any present fund, sufficient to defray the expence of making it?

THE answer is clear and obvious. The distance from the Shannon to a lake that joins the sea near Sligo, is but *ten miles*. Can it be supposed a cut from the lake to the sea, would be more difficult or expensive than in any other direction? Therefore it is certain that after the navigation-board have compleated the navigation to Athlone, this is the first and most essential work they can undertake. For, that compleated, we might lade coals at the mouth of the canal, adjoining to the sea, at such a small expence

pence, and in such an expeditious manner, as to have them at the Dublin market much cheaper than they can be imported from England; and without any hazard of failure of supply.

THE navigation board have now every rising advantage of the nation fully in their power; and by a proper attention to compleat the works, and to the establishing a regular fund, they may contribute to the almost innumerable advantages, and every other improvement I have mentioned; and the measures they now take, will either be ruin, or the enriching of this country.

I ACKNOWLEDGE they cannot proceed without a fund, and how that may be raised, is the next consideration.

IT will not be denied that every man who receives a benefit from a public work ought to contribute to it's support. We cheerfully tax ourselves for the support of government, because that is intended for the good of society. Now if it is found that the navigation of our rivers would increase the wealth, and add to the happiness of the people, can we suppose we would give to one channel, and refuse
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contributing to the other, when the prosperity of the nation is the ultimate and reciprocal object of both.

To what purpose can a tax be better applied than compleating our many and extensive rivers, exploring the hidden treasures that lie concealed in the bowels of the earth, and by means of that extended navigation, bringing them, and every other production of art or nature to their respective markets?

By pursuing the navigation of the Shannon, there is not a single acre in the kingdom but will have it's value enhanced; every other river will follow of course, and the inhabitants of the banks of the Shannon will be enabled to sell the produce of their toil to those on the shores of the Barrow, the Blackwater, and the Boyne, and take the produce of the country washed by those rivers, in a profitable exchange. Each part of the nation thus receiving a benefit, would chearfully contribute to so small a tax as *one penny* per acre, annually on all the lands of Ireland; and *five shillings* on each livery servant; besides this, the hearth money changed to a tax of six pence in the pound on all houses

houses above the yearly rent of ten pounds. This would bring in considerably more than the hearth money, and in a few years would finish the canal from the Shannon to Dublin, and complete the entire plan.

To this some may object, that a tax once laid on, can never be relaxed, as it may be feared the influence of the crown may be superior to the virtue of the representatives of the people. But if the crown is interested in the execution of this plan, there can be no doubt of obtaining it's warmest support. Now this may be probably effected by giving the reversion of those taxes, after six years, to the crown, on condition of taking off all restrictions on our commerce. Thus every jealousy may be removed, the plan may be compleated in six years, (or at least the remains of the fund for that time will be sufficient to do it) and all the rivers so effectually united by canals, as to answer the great national objects above-mentioned.

I NOW come in the LAST place, to draw some particular inferences from what I have advanced, and give some explanations that may be thought necessary.

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IN order to which, I must take a retrospective view of what I have said, and compare the whole with the real interest of Great Britain.

THE trade from Great Britain to Ireland, produces near two millions per annum, though our inhabitants are not much more than that number. If these advantages were properly supported, and the people employed in the country, there would not only be a thorough stop to emigration, but in a course of fifteen years the number of people would be nearly double. Of course, the trade from Great Britain to Ireland would encrease, in proportion to the encrease of people; and from the inland navigation, and the coast fisheries, we might become a nursery for seamen; for the navigation of the rivers would instruct boys in the management of boats and vessels of burthen, more than the navigation of the English canals.

THE keeping our people from emigrating is a peculiar matter of sound policy, because every person who quits this kingdom is a real loss to Great Britain, as every artist or manufacturer thus lost, strengthens the enemies of our sister country,

country, by contributing to lessen the demand of her manufactures, which it is her interest to support.

How far this country is entitled to a preference of trade, may be seen from a comparative view of the exports and imports between England and Russia, also to and from Ireland.

Exports from Great Britain to Russia,	one million.
Ditto from Ditto to Ireland,	two millions.

Imports from Russia into Great Britain,	two millions.
Ditto from Ireland to Ditto,	one million.

The ballance in trade to Russia, is here evidently against Great Britain; whereas the value of her imports from Ireland, are in a great measure returned to, and spent in England: and very little, if any, is ever returned from Russia to Britain. Now, if self-policy joined with gratitude to us, could co-operate in this consideration, there can be no question, whose interest she ought to adopt. Especially when it is remembered that the very rent of the ground best fitted to produce the most necessary articles of an encreased trade, is mostly spent in England by our nobility, and

gentry who reside there, and draw near one third of the value of our lands from hence.

HAD those persons exerted their influence to pour into Ireland but part of the vast sums which have been raised in England since 1762, for the improvement of their collieries, pot-ash, and pearl-ash would have been made here, equal to any imported from Russia, and that even from waste and mountainous tracts, which now lie rude and useless. This I advance from experience, as I know a trial has been made, with the greatest success, the result of which will be shortly laid before the Dublin society.

SIMILAR endeavours on the part of Britain, would have kept *above fifty thousand* of our inhabitants at home, who are now enriching the towns of America with arts and manufactures, and forming the best part of that power which now gives Britain so much uneasiness.

As Ireland, according to the Down survey, is supposed to contain near *twelve millions of acres*, a tax of one penny per acre would produce about 50,000l. a year

year. There are computed to be *four hundred thousand houses*, and allowing one fourth part to entertain *two* livery servants on an average, the tax of 5s. per annum on each, would produce 50,000l. The hearth-money is computed to raise 78,000l. if this was changed for the proposed tax of 6d. in the pound on all houses above ten pounds a year, it would raise more than treble the sum, and enable us to offer something equivalent to Great Britain for an extension of trade.

THE produce of this revenue for six years, applied to this purpose, under proper management, would complete every improvement I have proposed; and after six years let it be paid into the exchequer of Great Britain, in order to ease her of a part of her national debt: in consideration of which, let us be esteemed by Great Britain as united only by a bridge. Or, let the English take the tax immediately, remove every restriction, and secure for the purpose above-mentioned, (under the faith of the nation) the sum of 664,000l. this will put us in all points upon a level with England, and will be the likeliest means to put a proper and reasonable establishment of our trade, on a respectable footing.

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THE only observation I shall make on this subject is, that our own interest claims it at our hands, to lay aside that parsimonious frugality to our country, which we have hitherto reproachfully followed. The times demand a steady exertion of our utmost abilities. The dangers that threaten us, require it, for unless we take an active and determined part on this occasion, our country will be depopulated; commerce destroyed; and emigrations lower the value of our lands infinitely below their present rate,

FOR this reason let us meet the people of Great Britain upon the ground of equality, which the mode of taxation I have offered, will enable the parliament of Ireland to do. As this tax will nearly pay the interest of one fourteenth part of the national debt of Great Britain. This will appear, upon an impartial comparative view, to be a just proportion: for the following reasons. The circulating cash of Britain is supposed to be seventeen millions; that of Ireland not three millions; and the exports of England about seventeen millions annually, but the Irish exports not more than three millions, and the same proportion holds good, in respect to territory

territory. Wherefore, if the parliament of Ireland would provide a revenue for the Interest of that sum, and establish a regular fund for the purpose of paying it, it would be an ample compensation for enjoying a free unlimited commerce upon an equal footing with Great Britain.

I SHOULD not have presumed to offer any thoughts upon this subject, were it not that Englishmen are constantly opposing the debt of their nation, to every proposition for opening the gates of commerce to the people of Ireland; and that I have heard many unprejudiced men of property say, that there could be no sort of objection to every indulgence of this kind if any method could be found to equalize both nations, upon a rational medium.

THEREFORE when I considered the improvements that I had proposed for the good of the country, I imagined it would not be altogether foreign to the subject, to propose some reasonable means for obtaining that unlimited trade, which would be highly necessary to give life and vigour to the whole plan: not that I will
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take upon me to say that it is perfect, or accurately calculated, it being only meant as a general out-line for some compact, for the mutual benefit of both nations.

I AM well convinced, that no event of this kind can take place at present; but I am equally certain that this is the proper time for every hint of this nature. Because the subject may be maturely considered, and every degree of information, necessary to give a knowledge of every particular, may be obtained before the meeting of parliament.

FOR this purpose the navigation-board might order a survey to be made of a cut from the Shannon to the nearest lake that has a communication into Sligo bay; and lay down how far, such a cut might be practicable, and the expence attending it, at the dimension I have already stated.

ALSO, they might order an estimate to be made of the cut from Ballintra, to Battle Bridge, and gain every degree of information, how far the river is capable of being rendered navigable for boats.

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WHAT would add considerably to this information, would be, an association of some respectable characters, in order to create a proper fund for examining the mines and minerals, not only along the banks of this river, but also those of every other part of the kingdom. By this means, a general knowledge of the productions of the whole kingdom, their nature and properties, and the manner of working them might be laid down, for the inspection of every person, as a repository of instructions for the public, on the nature of mines, and minerals, where they may be got, and how near the sea, or any navigable river.

A SOCIETY thus formed for this purpose, might meet once a week, and have proper furnaces erected for examining mines of various kinds, clays of every sort; what each would produce; what advantage might be obtained from working either, and the substances into which they might be manufactured.

By those means, the legislature will be made acquainted with every branch of this kind, and what ought to meet with public encouragement. Supported by

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the testimony of men of veracity, and a candid detail of every process, which may prove highly useful to the public, as there is scarce any subject, in which the kingdom at large is so much interested, as a knowledge of the mines and minerals which this country possesses.

I SHALL now conclude with the method of coaking coal, with some observations on that process, the change it suffers therein, and the difference between charr'd wood and coaked coal.

THE first thing necessary, is to know the species of coal best calculated for charring. A soft, mellow, regular-grained coal, such as will melt upon a hot iron, is the best kind for smelting of any sort of metal from it's ore.

The process is this.

TAKE any quantity of those coals, not exceeding a ton; lay them in a heap, the large lumps at bottom, set fire to the whole, taking care that every lump of coal has a sufficiency of fire round it, nor must they be much heaped one over another, but rather extended: when they seem to be tolerably

tolerably well kindled, let the coals at the side be suddenly thrown into the middle, and the whole immediately covered with mould of turf, if to be had, or such as is produced by burning the coal thus. After a quantity of this is laid on, sufficient to stop all kind of smoak, let the whole surface be well smoothed all round, by a part of this mould somewhat lightly moistened, and laid so thick as to prevent the fire from kindling in the heap again.

The use and reasons of the process.

THE coal when raised, is so loosely combined with it's native principles, as to render it very unfit for smelting of ores, the heat of fire discharges a part of the inflammable matter, in the course of burning; and the remaining oily principle is, by means of confining the heat, more closely united to the earthy matter, and thereby so changed as to be the less prone to run into an earthy, glassy clinker.

THE earth in wood-coal is small in proportion to the quantity in mineral coal: wherefore it is better adapted for the purpose of smelting ores; because the earthy principle is more charged with the
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fine oily matter of the wood than the mineral can be. But if some method could be contrived to blend all the oleaginous parts of the mineral coal into an intimate union with its earth, by means of fire, there is no doubt but it would answer every purpose that wood-coal could in any manner accomplish.

THEREFORE I should suppose, that the principal use of burning is, to create such a sufficient degree of heat as may be necessary to blend the fine oily substance with the earthy matter of the coal, into the most intimate union. For if the loose, sooty matter of coals is hastily burnt off, a sulphurous substance will remain, extremely injurious to metals, of greedy attraction to earths, and little disposed to flame.

THE coal thus coaked is fit for drying malt; and, if not too much burnt would answer for smelting of ores, if the coal was of a good, mellow kind. In some places a kind of oven is used, into which, when strongly heated, the coal is thrown by a chimney at top, ending like a sugar-loaf. Here it is burnt with a smothering heat; and when thoroughly hot, closed all

round very carefully. These ovens take a long time to cool: the coal is taken out by means of a large opening which is occasionally shut up with a few bricks, so as to be easily removed when the coal is to be taken out.

IN the various trials I made for obtaining a knowledge of coaking, none succeeded so well as a small experiment in glass; though I must acknowledge it would be impossible to adopt it in a large way, yet it serves as a leading hint in the process. *It was this,*

A SMALL, coated glass retort being filled to two thirds with a harsh refractory coal, which would not yield to any other method, and exposed to a naked fire, a little watery vapour was first discharged, and afterwards a strong oily substance, which burnt with a quick, lively flame; when it ceased to give any more oil, the fire was removed, and the next day the retort broke: the coal that was here obtained, answered every purpose whatever, as well as wood-charred coal.

I HAVE repeated the experiment in a metal pot, and found it to answer extremely

tremely well: the quantity of oil obtained was considerable: and I make no doubt but farther trials might reduce this oil to some public advantage, if men of ingenuity would repeat the process, and adapt large furnaces, upon a proper construction for great works.

THIS I advance as opinion, for to me there appears some difficulty in the construction of a large furnace for this purpose: yet I must confess it is possible to bring it to bear; and I hope some person will take up the idea, and reduce it to actual practice in an extensive manner.

THUS I have collected a few observations for the purpose of contributing to the public good; should they answer that end in any respect, it will prove an ample reward to the author.

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